

AC 227 NOTES AND STATISTICS

ON

VACCINATION IN BURMA

FOR THE YEAR 1912-13



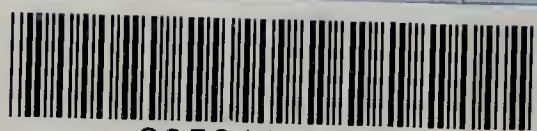
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NOTES AND STATISTICS

ON

VACCINATION IN BURMA

For the year 1912-13.

1. *Establishment*.—This was increased by 4 Vaccinators posted to Ma-ubin and Thatôn Districts, its strength being 272 Vaccinators and 49 Native Superintendents.

The number of Native Superintendents trained at the Meiktila school was 4, and of apprentice vaccinators 32, of whom 31 qualified.

2. *Dismissals and Removals*.—There were 13 dismissals and removals from the Establishment of Vaccinators, for neglect of duty, disobedience of orders, or falsification of their returns. Native Superintendents of Katha, Pegu and Meiktila Districts were dismissed for falsifying accounts, abetting inoculations, and other misdemeanours.

3. *Operations performed in 1912-13*—By District and Town Vaccinators.— Statement I.
In towns and rural areas, excluding jails and dispensaries, 533,647 operations were performed, of which 416,121 were primary operations and 117,526 re-vaccination. As compared with the returns for 1911-12 the total of primary operations was 614 less, and that of operations for re-vaccination 26,786 more, the total of all operations being 26,172 in excess of the previous year's return. In 44 Municipal Towns there were 26,431 successful primary operations and 16,871 successful operations for re-vaccination, these figures showing a decrease of nearly 3,000 primary operations and an increase of over 8,000 for re-vaccination in Municipalities.

The great increase, on the other hand, in the total number of operations for re-vaccination which was recorded for the year under review, and which amounts to 29·52 per cent. of all operations for re-vaccination performed in the previous year, is mainly, if not entirely, to be attributed to the prevalence of Small-pox in epidemic form in many districts, which provided a stimulus both to District Officers to push vaccination of contacts and of persons specially exposed to infection, and to such individuals to seek protection by subjecting themselves to the operation. It is obvious from the returns that the close attention devoted to re-vaccination and to the suppression of outbreaks of Small-pox is responsible for much of the falling off in primary vaccination.

4. *Re-vaccination*.—The large increase of 26,786 operations was contributed Statement I.
to mainly by the Mandalay Division with an increase of 12,423 operations, Sagaing Division with an increase of 15,910 and Magwe Division, increase 9,924. Meiktila Division returned an increment of 2,258. There was a small increase in all the districts of the Arakan Division. Pegu Division alone shows a heavy deficit in this class of operation amounting to 13,755, of which Rangoon contributed 11,036, and Prome District 4,501. Amherst District shows a deficit of 1,411. The individual districts which returned the largest increments under the head of re-vaccination were Sagaing (11,965), Mandalay (11,284), Shwebo (4,155), Minbu (3,980), Magwe (3,695), Pegu (1,376), Thayetmyo (2,198), Myingyan (1,064).

5. *Successful Results*.—In primary operations 1912-13 returns show a Statement I.
deficit of 312 successful cases as compared with those of the previous year. In re-vaccination there was an increase of 20,068 successful cases. The percentage success of known cases was for the whole Province in primary vaccination 96·71, and in re-vaccination 68·12 against 96·61 and 72·77 respectively in 1911-12. The percentage of unknown cases was 3·63 in primary, and 9·94 in re-vaccination.

The total of successful operations of both classes was 459,929 against a previous five years' average of 353,723, the ratios per mille of population vaccinated in 1912-13 being 37·96, and the previous five years' average 31·81, a definite advance of 6·15 per mille.

6. *Cost of the Department*.—The total cost of the Vaccination Department Statement II.
for the year 1912-13 was Rs. 2,05,198-12-2 an increase of Rs. 4,595-2-10 on the previous year's expenditure. The excess under Local Funds (Lower Burma District Cess Funds) was Rs. 2,762-6-1 and under Municipalities Rs. 2,731-7-9, while there was a decrease of Rs. 693-13-10 in expenditure from Provincial Funds and of Rs. 204-13-2 in that of Native States.

The average cost of each successful operation was Re. 0-7-3 against Re. 0-7-5 in 1911-12. There were 19,756 more operations than in the previous year, and these cost Rs. 4,895-2-11, or Re. 0-4-0 per successful case.

A low average cost per successful operation was obtained by Magwe District Re. 0-2-8, Sagaing Re. 0-2-10, Katha Re. 0-3-2, Myingyan Re. 0-3-6, Minbu Re. 0-3-6, Amherst Re. 0-4-3, Tharrawaddy Re. 0-4-7, Ma-ubin Re. 0-4-8 and an excessively high average was reached by Hanthawaddy District (Syriam) with Rs. 1-9-8, Ruby Mines Rs. 1-9-7, Northern Shan States Rs. 1-8-6, Insein District Rs. 1-3-11, Pyapôn District Rs. 1-2-6. A reference to column 7, Statement I will show that a high average cost is correlated with a small total outturn of work, and a low average number of operations per vaccinator, while the reverse also holds good.

Statement
III.

7. *Dispensary Vaccination.*—A total number of 10,705 operations was performed at Dispensaries, of which 5,968 were primary operations, with a success ratio of 95·47, and 4,737 re-vaccination, with a success ratio of 55·79. There was an increase of 87 in the successful cases in primary vaccination over the previous year's record, and in re-vaccination of 235 successful cases.

8. *Vaccination in Fails.*—This is not shown in any of the statements. The total operations were 26,864 in an average population of 16,334, against 26,439 operations in 1911-12, an increase of 425. Primary vaccination (3,391 operations) gave a success ratio of 86·46 per cent., and re-vaccination (23,473 operations) of 65·22 per cent.

Jail vaccination is an important element in the total protection from Small-pox afforded by the Vaccination Department during the year. The 18,241 successful operations performed in Jails in 1912-13, constituted a by no means inconsiderable fraction (about one-twenty-sixth) of the whole outturn of the Province. I therefore view with disfavour the proposals recently under consideration by the Government of India for exempting a large section of Jail inmates from compulsory vaccination—believing that such exemption will be detrimental to the safety of the prisoners as a whole, and will further tend to greatly reduce the effect of what is now a very useful object lesson for the instruction of the labouring classes of this Province in the value of vaccination. Small-pox is at present practically unknown in Jails and the reason is obvious to all. This will cease to be the case if the existing safe-guards are removed.

Statement
V.

9. *Verification.*—There is great variety in the quantity of verification work performed by different Civil Surgeons, the percentages ranging from 71·61 per cent., and 3,779 primary operations, in the case of the Civil Surgeon, Sandoway, to Nil in Pyapôn, and 48 per cent. and 47 operations in Prome. The average percentage of verification by Civil Surgeons was 16·45 in primary operations but only 14·39 on total operations, and by Native Superintendents 53·23 in primary operations. The Civil Surgeons of Myaungmya, Sandoway, Magwe, Thatôn and Thayetmyo, deserve special credit for the interest taken in vaccination by them, and for the amount of labour put into supervision. *Per contra* we have the all but vanished record of the Civil Surgeon, Prome (47 primary cases verified) who has apparently striven to direct the Vaccination Staff of his district from his headquarters office, without personal supervision. The pressure of work at headquarters can hardly be held to authorize a complete relegation of personal supervision of vaccination to the Native Superintendent. Still less excuse is apparent for the 3·64 per cent. and 655 primary operations verified by the Civil Surgeon of Tharrawaddy District, where the duties at headquarters are light, out of a total of 18,014 recorded. The wide-spread and fatal outbreaks of Small-pox which have overrun these two last-named districts during the last two years are an eloquent testimony to the folly of trusting to paper returns furnished by subordinates, in lieu of personal supervision. Both in Tharrawaddy District and in the adjoining district of Insein it is reported that there are many large and small villages which have not been visited by vaccinators for years, or by a Civil Surgeon within living memory. The Commissioner, Pegu Division, in a marginal note to the Annual Sanitary Report of that district remarks "According to paragraph 1(d) the vaccinators visited 731 out of 883 villages, yet I constantly see complaints in Subdivisional Officers' diaries that vaccinators have not visited certain villages for years. There appears to be little or no control over the work done." Other sources of information indicate that the amount of

personal supervision given by the Civil Surgeon, Pegu, to vaccination, has for years past been only nominal. A special enquiry is being made into the condition of vaccination in these localities.

The Civil Surgeon, Pyapôn, does not appear to have verified a single case of vaccination during the year. It is not difficult to account for the alleged hostile attitude of the people of the district to vaccination if this is the policy of the Superintendent of the District Vaccination Staff.

10. *Inoculation*.—Inoculators of small-pox have been active in many districts. In Thatôn, Pyapôn and Pegu Districts outbreaks of epidemic small-pox were directly traced to their action. Inoculators were convicted and fined in Pegu, Magwe and Myaungmya Districts and one was sentenced to 9 months' imprisonment in Bassein District.

As evidence of the rapid progress that can be attained as the result of active support given by the Deputy Commissioner and his Assistant District Officers in the promulgation of vaccination in a district where the people had for years been described as antagonistic to the operation, and where a negligible number of operations were being performed annually, I cannot do better than detail the success gained in Ma-ubin District under the able direction of the present Deputy Commissioner Captain A. B. Roberts, I.A., who has taken the greatest interest in the work of this Department. For two years the District Vaccinators have been working in direct touch with the Subdivisional and Township Officers, with the result that the total number of successful operations performed annually has risen from 5,371 in 1910-11 to 13,173. The successful primary operations have risen from 5,219 to 12,955 in the same period. The number of primary cases verified by the Civil Surgeon was in 1910-11, 833, and in 1912-13, 2,321 which however falls short of the verification work performed by him in the year 1911-12 by 518. The personal attention devoted by Mr. Hollingsworth to verification of results has had the important result of proving that the returns submitted by the Native Staff of successful operations have not been to any extent exaggerated, and that the figures recorded indicate solid progress.

11. *Protection afforded by Vaccination*.—It is unfortunate that the materials available for the study of this most important and interesting subject are extremely meagre and of doubtful trustworthiness. As to the condition of protectedness against Small-pox before the attack of most sufferers no record is available. The greater number of Small-pox patients are never seen alive by a Medical Officer, and many others are seen too late in the course of the disease for the marks of vaccination to be detected if present. But even in those instances where care is exercised to note at the time of registration of the seizure or death whether the patient had previously been vaccinated or had been otherwise protected from Small-pox, the entry does not always contain the whole truth. Thus in the early months of 1912 when Small-pox was widespread in Prome Town practically every apparently healthy infant found in a house-to-house search was compulsorily vaccinated under the Vaccination Act. The return of deaths quoted in last year's Vaccination Note (paragraph 9, page 4) shows that 41 children of ages between six months and two years died, of whom 14 only had been vaccinated. It is probable that several, possibly nearly all, of these 14 young children had but just been vaccinated before they developed Small-pox, too late for the prophylactic results of the operation to come into effect.

The Health Officer, Rangoon, reports that in the epidemic of Small-pox which occurred in that town in 1912 some 352 of the cases (persons of all ages) were said to have been vaccinated once, and of these 111 or nearly a third, died; 118 had been vaccinated twice, and of these 8 died, and of 145 unvaccinated persons 69 died. The percentage deaths amongst the once vaccinated were 31·53, amongst the twice vaccinated 6·78, and among the unvaccinated 47·59.

Among children under five years of age 9 out of 38 vaccinated, died, or 23·68 per cent. and there were 20 fatal cases among 21 unvaccinated infants, or 95·24 per cent. Thus in the first five years of age the advantage on the side of the vaccinated person over the unvaccinated is just over 4 to 1, while in later life the once vaccinated person has an advantage over the unvaccinated of only 1·5 to 1; the advantage possessed by the twice vaccinated over the unvaccinated is as 7 to 1.

But these returns are very incomplete. It appears probable that none of the

vaccinated children had more than one good vaccination scar and that they were thus only partially protected. In the case of adults the vaccination scars are often described by the reporter as "invisible", which clearly indicates that he relied on the patient's or his friends' statement and was unable to verify it. Efforts will be made to obtain more exact and detailed returns on this important point in future epidemics.

Appendix B.

12. *Vaccination in Towns.*—The number of survivors of births registered in 1912-13 was 17,189, and the number of infants under twelve months of age reported as having been successfully vaccinated was 19,161 or 1,972 in excess of the infants available. This is a constantly recurring phenomenon and was discussed sufficiently in last year's Note. The point to which attention has to be devoted here is the failure on the part of the responsible authorities of several important towns to afford protection by vaccination to a large proportion of the infants available. Chief among the towns concerned stands Prome, which, with 624 surviving infants available, vaccinated successfully only 240, or under two-fifths. An equally bad outturn of work was recorded in the previous year, and adverted to in my Note. It is observed that the returns for Paungdè Town in the same district are little better, only 169 out of 246 available infants being successfully vaccinated. I have already, earlier in this Note drawn attention to the very indifferent outturn of vaccination work in this district, and to the absence of personal attention displayed by the Civil Surgeon. Paungdè together with Prome suffered severely from Small-pox in 1912.

13. *The work of the Vaccine Dépôt, Meiktila.*—The amount paid for hire and purchase of calves was Rs. 3,153-15-6, against Rs. 2,001-6-0, in the previous twelve months. The rise in cost was due to the greater number of calves used (477 against 390), and the increased rate of hire. The cost of feeding the calves amounted to Rs. 738-13-2, against Rs. 492 in 1911-12 owing to the increased number of calves.

Out of 477 calves inoculated with vaccine 414 yielded lymph fit for issue. The potency of the strain was maintained by vaccine lymph taking from inoculated rabbits, and on three occasions by the use of human lymph for inoculating calves. The local strain of lymph was found to be more potent for the vaccination of calves than lymph obtained from Bombay and the United Provinces. The issue of vaccine lymph was 757,518 doses as against 693,913 in 1911-12, and 613,444 in 1910-11. The average weight of vesicle pulp per calf was 287·4 grains, being rather more than a grain less than in the previous year. The total weight of vesicle pulp obtained during the year was 271·9 ounces, and the total amount of glycerinated vaccine prepared was 760,294 doses. The figures for lymph prepared and issued constitute a record for the second year in succession. The Director points out that the buildings provided for the preparation of lymph are far too small for the greatly increased work of the Department, which has risen from the preparation of 68·73 ounces of vesicle pulp in 1903-04 to 271·9 ounces in the year under review, or nearly 300 per cent. The matter has had to be kept in abeyance for want of funds, but recently a special grant of Rs. 50,000 for the improvement of the Vaccine Dépôt has been made by the Imperial Government, and the preparation of revised plans will at once be proceeded with.

I have much pleasure in acknowledging the good work done by Major Dick, Major Beit, and Captain Walker, all permanent incumbents of the appointment, the last named of whom is now in charge, and in thanking the Medical Officers who were in temporary charge, *viz.*, Captains Churchill and Farebrother, R.A. M.C., and Captain Munro, I.M.S., for their efficient discharge of their duties at the Dépôt.

The title of Rao Sahib was conferred on Sub-Assistant Surgeon Govinda Pillay for his long and meritorious services at the Dépôt. The head loader Shambudayal and the other members of the Subordinate staff worked well throughout the entire period.

C. E. WILLIAMS, M.D., D.P.H., D.T.M.,

LIEUT.-COLONEL, I.M.S.,

Superintendent-General of Vaccination, Burma.

RANGOON, 27th May 1913.

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A.—VACCINATION

STATEMENT NO. I.—*Showing particulars of Vaccination in the*

No.	Districts.	Popula- tion of district according to census of 1911.	Average popula- tion per square mile.	Average number of vacci- nators employ- ed through- out the year.	Total number of persons vaccinated.			Average number of per- sons vacci- nated by each vacci- nator.	PRIMARY VACCINATION.				
									Total.	Successful.			Un- known.
										Under one year.	One and under six years.	Total of all ages.	
1	2	3	4	5	6			7	8	9	10	11	12
ARAKAN DIVISION.													
1	Akyab	529,943	103	10	9,829	7,917	17,746	1,775	14,022	1,957	8,168	13,014	444
2	Hill Tracts, Northern Arakan	22,234	15	2	609	398	1,007	504	527	6	216	915	2
3	Kyaukpau	184,916	42	6	6,241	5,478	11,719	1,553	10,607	749	4,022	10,022	230
4	Sandoway	102,803	27	3	3,251	2,766	6,017	2,006	5,277	325	2,349	5,103	17
	Total	839,896	57	21	19,930	16,559	36,489	1,738	30,833	3,037	14,755	29,059	693
PEOU DIVISION.													
5	Rangoon	293,316	10,476	4	36,607	4,079	40,686	10,172	*8,134	4,782	1,488	7,662	372
6	Insein	265,245	136	5	2,149	2,341	4,490	898	*3,659	798	2,037	3,358	88
7	Hanthawaddy (Syriam)	332,569	196	6	3,157	2,937	6,094	1,016	4,904	486	2,078	3,527	1,217
8	Pegu	370,416	91	8	6,233	5,877	12,110	1,514	9,252	2,013	4,310	8,570	206
9	Tharrawaddy	433,320	151	8	8,936	9,286	18,222	2,278	17,114	4,845	9,190	16,607	...
10	Prome	378,871	130	12	5,893	6,370	12,263	1,022	9,885	2,854	5,442	9,332	201
	Total	2,073,737	156	43	62,975	30,890	93,865	2,183	52,948	15,778	25,145	49,056	2,084
IRRAWADDY DIVISION.													
11	Ma-ubin	305,073	185	6	6,648	7,119	13,767	2,295	13,087	1,750	8,605	12,955	3
12	Pyapön	256,215	119	6	1,999	1,955	3,994	666	*3,242	632	1,893	3,080	50
13	Bassein	440,938	107	10	7,879	7,774	15,653	1,565	15,473	3,636	7,843	14,316	653
14	Henzada	532,357	187	15	11,752	12,245	23,997	1,600	20,491	4,717	10,422	18,557	1,354
15	Myaungmya	334,852	127	7	4,216	4,235	8,501	1,214	7,706	1,034	3,203	7,309	211
	Total	1,869,485	139	44	32,494	33,418	65,912	1,498	59,999	11,769	31,971	56,217	2,271
TENASSERIM DIVISION.													
16	Amherst	367,918	52	9	16,359	13,021	29,380	3,264	23,493	2,916	7,572	21,929	770
17	Tavoy	135,293	25	5	3,622	3,250	6,872	1,374	*5,667	2,717	1,952	5,173	415
18	Mergui	111,424	11	4	2,696	2,525	5,221	1,305	*5,132	723	2,131	4,843	45
19	Toungoo	351,076	57	9	5,408	5,146	10,554	1,173	9,097	2,461	3,848	8,357	463
20	Thatön	416,975	85	8	8,847	9,139	17,986	2,248	14,709	2,620	6,840	12,644	964
21	Salween	46,608	17	1	957	831	1,788	1,788	1,379	17	199	1,203	...
	Total	1,429,294	40	36	37,889	33,912	71,801	1,994	59,282	11,454	22,542	54,149	2,657
MANDALAY DIVISION.													
22	Mandalay	340,770	161	10	11,296	11,661	22,957	2,296	*10,406	5,735	3,793	10,053	205
23	Bhamo	107,811	16	4	2,066	1,557	3,623	906	3,233	1,032	1,165	2,695	85
24	Katha	198,193	28	4	4,651	4,656	9,307	2,327	8,791	1,130	3,787	8,537	69
25	Ruby Mines	100,618	18	4	1,579	1,472	3,051	763	*2,977	441	1,542	2,581	290
26	Myitkyina	85,577	8	2	991	822	1,813	907	1,235	137	557	1,176	28
	Total	832,969	26	24	20,583	20,163	40,751	1,698	26,642	8,525	10,844	25,042	677
SAGAING DIVISION.													
27	Shwebo	256,363	62	8	7,721	8,624	16,345	2,043	11,620	2,178	6,320	10,958	189
28	Sagaing	312,111	171	6	10,933	14,489	25,422	4,237	11,931	5,679	5,950	11,829	215
29	Lower Chindwin	316,175	91	6	5,842	6,162	12,004	2,001	11,252	5,627	4,236	11,208	...
30	Upper Chindwin	170,622	11	6	3,106	3,313	6,419	1,070	*6,416	505	4,751	6,188	159
	Total	1,155,271	44	26	27,602	32,588	60,190	2,315	41,219	13,989	21,257	39,983	563
MAGWE DIVISION.													
31	Thayetmyo	248,275	52	8	7,806	8,161	15,967	1,996	11,539	2,093	4,082	10,151	556
32	Pakōku†	436,160	44	10	10,902	10,741	21,643	2,164	21,346	4,301	9,492	20,334	667
33	Minbu	263,939	80	7	9,023	9,575	18,598	2,657	14,037	3,295	6,241	13,215	854
34	Magwe	316,909	96	8	13,803	10,739	24,542	3,068	*20,143	6,397	12,378	19,559	50
	Total	1,265,283	59	33	41,534	39,216	80,750	2,447	67,665	16,086	32,143	63,259	1,627
MEIKTILA DIVISION.													
35	Meiktila	279,822	128	6	5,538	5,766	11,304	1,884	10,469	1,276	7,580	9,708	581
36	Yamethin	307,419	72	7	6,277	6,065	12,342	1,763	12,318	4,276	7,045	11,321	672
37	Kyaukse	141,426	111	3	3,207	3,494	6,701	2,234	*5,143	3,426	1,549	4,975	102
38	Myingyan	441,905	142	7	9,846	10,289	20,135	2,876	18,405	5,279	9,972	17,487	333
	Total	1,170,572	108	23	24,868	25,614	50,482	2,195	46,340	14,257	26,146	43,491	1,688
SHAN STATES.													
39	Northern Shan States	458,952	32	8	4,120	1,442	5,562	695	5,417	103	1,739	4,014	1,077
40	Southern Shan States	900,202	22	11	12,298	12,134	24,432	2,221	23,725	1,310	7,638	21,221	1,464
	Total	1,359,154	25	19	16,418	13,576	29,994	1,579	29,142	1,413	9,377	25,235	2,541
CHIN HILLS.													
41	Chin Hills	119,556	15	3	1,505	1,271	2,776	925	2,651	165	759	2,332	287
	GRAND TOTAL	12,115,217	53	272	285,798	247,212	533,010	1,960	416,121	96,473	194,939	387,823	15,088

NOTE.—This statement does not include the figures for Dispensary

* Secondary operations

† Including the area and population

DEPARTMENT.

Province of Burma during the year 1912-13 (Paragraphs 3, 4 & 5).

RE-VACCINATION.			PERCENTAGE OF SUCCESSFUL CASES IN WHICH THE RESULTS WERE KNOWN.		Persons successfully vaccinated per 1,000 of population.	PERCENTAGE OF UNKNOWN CASES TO TOTAL CASES.		AVERAGE ANNUAL NUMBER OF PERSONS SUCCESSFULLY VACCINATED DURING PREVIOUS FIVE YEARS.		AVERAGE ANNUAL NUMBER OF DEATHS FROM SMALL-POX DURING PREVIOUS FIVE YEARS.		No.
Total.	Successful.	Unknown.	Primary.	Re-vaccination.		Primary.	Re-vaccination.	No.	Ratio per 1,000.	No.	Ratio per 1,000.	
13	14	15	16	17	18	19	20	21	22	23	24	25
3,724	2,379	304	95·85	69·56	29·05	3·17	8·16	13,041	26·02	195	·40	1
80	74	..	98·92	92·50	44·48	·22	...	1,130	53·09	...	...	2
1,112	986	16	96·68	89·96	59·53	2·17	1·44	8,087	46·10	145	·84	3
740	239	23	97·11	37·52	52·30	·32	3·11	2,921	30·53	2	·02	4
5,656	3,708	343	96·41	69·79	39·01	2·25	6·06	25,178	31·73	342	·45	
32,554	18,650	4,656	98·71	66·85	89·71	4·57	14·30	18,228	68·06	261	1·00	5
869	477	23	94·04	56·72	14·46	2·41	3·22	...	...	...	...	6
1,190	515	390	95·66	64·38	12·15	24·82	32·77	5,704	11·78	114	·24	7
2,853	1,961	174	94·74	73·06	28·43	2·23	6·09	8,660	23·08	156	·44	8
1,108	653	31	97·04	61·10	39·84	...	2·80	12,719	30·96	376	·93	9
2,378	1,012	375	96·37	50·52	27·30	2·03	15·77	11,662	31·42	42	·11	10
40,957	23,273	5,654	96·45	65·92	34·88	3·94	13·80	56,974	29·84	950	·51	
680	218	1	99·01	32·11	43·18	·02	·15	5,004	17·14	71	·25	11
770	216	54	96·49	30·17	12·86	1·54	7·01	2,450	10·31	84	·36	12
180	150	27	96·60	93·04	32·80	4·22	15·00	13,241	32·27	24	·06	13
3,506	1,381	479	96·97	45·62	37·45	6·61	13·66	15,127	30·02	32	·07	14
795	293	103	97·52	43·06	22·72	2·74	12·96	8,632	23·61	131	·45	15
5,931	2,263	664	97·38	42·97	31·28	3·79	11·20	44,453	25·47	343	·20	
6,082	3,354	553	97·34	60·72	63·72	3·31	9·17	23,542	71·92	145	·46	16
1,544	512	452	98·50	46·89	42·02	7·32	29·27	5,948	49·57	...	...	17
108	59	9	95·20	59·60	43·99	·88	8·33	5,632	57·56	11	·12	18
1,457	696	127	96·79	52·33	25·79	5·09	8·72	7,122	22·99	175	·63	19
3,277	1,465	470	91·99	52·19	33·84	6·55	14·34	10,812	28·99	126	·35	20
409	186	...	87·24	45·48	29·80	...	...	840	20·31	...	...	21
12,877	6,272	1,616	95·63	55·70	42·27	4·48	12·55	53,596	42·46	457	·40	
12,597	9,194	923	98·55	78·76	56·48	1·97	7·33	12,191	34·21	42	·12	22
390	224	70	85·61	70·00	27·08	2·63	17·95	3,793	41·72	...	...	23
516	319	8	97·88	62·80	44·68	·78	1·55	6,194	33·49	...	...	24
97	68	14	96·06	81·93	26·33	9·74	14·43	2,635	28·33	...	...	25
578	485	24	97·43	87·55	19·41	2·27	4·15	1,053	14·11	...	...	26
14,178	10,290	1,039	96·45	78·32	42·42	2·54	7·33	25,867	32·34	...	...
4,725	3,152	320	95·86	71·56	39·59	1·63	6·77	10,425	38·12	13	·04	27
13,431	11,521	828	99·26	90·98	74·17	1·80	6·14	15,958	54·20	20	·07	28
752	522	...	99·61	69·41	37·10	...	...	12,792	43·77	14	·05	29
17	14	...	98·90	82·35	36·35	2·48	...	6,623	41·15	...	...	30
18,985	15,209	1,148	93·34	85·27	47·77	1·37	6·05	45,798	43·11	46	·05	
*4,467	2,346	453	92·42	58·52	50·34	4·32	10·25	10,391	42·66	8	·03	31
297	91	19	98·33	33·81	46·84	8·12	6·40	14,623	37·65	199	·62	32
4,561	2,201	301	96·58	51·67	58·41	2·52	6·60	8,475	34·49	4	·02	33
4,414	3,313	59	97·34	76·19	72·19	·25	1·34	13,812	50·25	13	·05	34
13,739	7,959	837	96·67	61·69	56·29	2·43	6·09	47,301	41·04	224	·21	
835	487	108	98·18	66·99	36·43	5·55	12·93	7,734	29·51	16	·06	35
24	16	2	97·21	72·73	36·88	5·46	8·33	9,210	34·25	103	·40	36
1,637	1,250	59	98·59	79·21	44·02	1·93	3·60	4,623	32·75	4	·08	37
1,730	810	128	96·76	50·56	41·40	1·81	7·40	12,732	32·61	76	·20	38
4,228	2,563	297	97·40	65·23	39·34	3·64	7·03	34,304	32·28	199	·19	
145	77	15	92·49	59·23	8·91	19·88	10·34	2,751	7·31	...	...	39
707	445	61	95·33	68·89	24·07	6·17	8·63	15,341	18·05	...	...	40
852	523	76	94·86	67·27	18·95	8·72	8·92	18,092	14·76	...	...
125	47	7	98·65	39·83	19·90	10·83	5·60	1,861	18·58	...	...	41
117,526	72,106	11,681	96·71	63·12	37·96	3·63	9·94	253,723	31·81	...	...

Vaccination which are shown separately in Statement III. included.
of the Pakokku Chin Hills.

Summary of Statement I.

	Total number of persons vaccinated.		Total number of operations performed.		Percentage of successful cases in which results were known.		Average number of persons vaccinated by each vaccinator.		Number of children successfully vaccinated.		Ratio of successful vaccinations per 1,000 population.	Total cost of Department.	Average cost of each successful case.
	Primary.	Re-vaccination.	Primary.	Re-vaccination.	Primary.	Re-vaccination.	Vaccinators employed.	Persons vaccinated by each vaccinator.	Under one year.	One year and under six years.			
1	2	3	4	5	6	7	8	9	10	11	12	13	14
By special staff (Statement I).	409,253	115,629	409,851	115,663	96.73	68.12	272	1,930	95,477	193,169	37.39	Rs. 205,198 12 2	A. P. 0 7 8
By dispensary staff (Statement III).	5,966	4,737	5,968	4,737	95.47	55.79	...	...	915	2,464	.65	...	...
By other agencies, if any.	6,270	1,858	6,270	1,858	95.08	68.40	...	...	996	1,770	.57	...	...
Total ...	421,489	122,224	422,089	122,263	96.69	67.64	272	1,930	97,388	197,403	38.62	...	...

A.—VACCINATION

STATEMENT NO. II.—Showing the cost of the Department in the

No.	Districts.	EXPENDITURE.										
		European super- vising officers.	Pay.	Native supervi- sing officers.	Pay.	Vaccinators.	Pay.	Clerks.	Pay.	Peons, etc.	Pay.	Total pay of establish- ment.
1	2	3	4	5	6	7	8	9	10	11	12	13
ARAKAN DIVISION.												
1	Akyab ...	...	Rs. A. P.	2	780 0 0	10	2,748 9 5	...	...	...	...	3,528 9 5
2	Hill Tracts, Northern Arakan...	...	...	...	...	2	671 0 0	...	...	...	...	671 0 0
3	Kyaukpyu ...	...	...	1	813 0 0	6	1,794 9 7	...	...	...	...	2,607 9 7
4	Sandoway ...	...	...	1	600 0 0	3	865 0 0	...	...	...	...	1,465 0 0
	Total ...	...	...	4	2,193 0 0	21	6,079 3 0	...	...	...	...	8,272 3 0
PEGU DIVISION.												
5	Rangoon...	...	...	...	...	4	8,136 0 0	...	...	5	708 3 1	8,844 3 1
6	Insein ...	...	...	2	900 0 0	5	1,879 13 4	...	...	...	...	2,779 13 4
7	Hanthawaddy (Syriam) ...	...	...	2	1,500 0 0	6	2,236 12 6	...	...	...	...	3,736 12 6
8	Pegu ...	...	...	2	1,193 0 0	8	2,959 9 10	...	...	...	...	4,157 9 10
9	Tharrawaddy ...	...	...	1	615 0 0	8	2,315 4 4	...	...	...	...	2,930 4 4
10	Prome ...	...	...	1	900 0 0	12	3,728 0 0	...	...	...	...	4,628 0 0
	Total ...	...	...	8	5,113 0 0	43	21,255 8 0	...	...	5	708 3 1	27,076 11 1
IRRAWADDY DIVISION.												
11	Ma-ubin ...	...	...	1	968 3 0	6	1,311 0 4	...	...	...	...	2,279 3 4
12	Pyapôn ...	...	...	1	600 0 0	6	1,990 0 0	...	...	...	...	2,590 0 0
13	Bassein ...	...	...	2	690 0 0	10	2,663 13 2	...	...	...	...	3,353 13 2
14	Henzada ...	...	...	1	250 0 0	15	4,342 15 0	...	...	...	...	4,592 15 0
15	Myaungmya ...	...	...	1	600 0 0	7	1,881 2 8	...	...	...	...	2,481 2 8
	Total ...	...	...	6	3,108 3 0	44	12,188 15 2	...	...	...	...	15,297 2 2
TENASSERIM DIVISION.												
16	Amherst ...	...	...	3	1,547 0 0	9	2,639 11 8	1	240 0 0	...	...	4,426 11 3
17	Tavoy ...	...	...	1	600 0 0	5	1,637 11 6	...	...	...	...	2,237 11 6
18	Mergui ...	...	...	1	550 0 0	4	928 4 3	...	...	...	...	1,478 4 3
19	Toungoo ...	...	...	1	723 11 4	9	2,201 3 11	...	...	...	...	2,924 15 3
20	Thatôn ...	...	...	1	600 0 0	8	2,351 5 6	...	...	...	...	2,951 5 6
21	Salween ...	...	...	...	...	1	360 0 0	...	...	...	...	360 0 0
	Total ...	...	...	7	4,020 11 4	36	10,118 4 10	1	240 0 0	...	...	14,379 0 2
MANDALAY DIVISION.												
22	Mandalay ...	...	...	1	929 15 11	10	4,081 11 2	...	...	...	...	5,011 11 1
23	Bhamo ...	...	...	...	...	4	1,369 4 10	...	...	...	...	1,369 4 10
24	Katha ...	...	...	1	50 0 0	4	1,047 15 11	...	...	...	...	1,097 15 11
25	Ruby Mines ...	...	...	1	1,170 0 0	4	1,695 11 1	...	...	...	...	2,865 11 1
26	Myitkyina ...	...	...	...	...	2	769 2 7	...	...	...	...	769 2 7
	Total ...	...	...	3	2,149 15 11	24	8,963 13 7	...	...	...	...	11,113 13 6
SAGAING DIVISION.												
27	Shwebo ...	...	...	1	595 0 0	8	2,182 3 8	...	...	...	...	2,777 3 8
28	Sagaing ...	...	...	1	522 12 11	6	2,003 8 6	...	...	...	...	2,526 5 5
29	Lower Chindwin ...	...	...	1	996 0 0	6	1,701 0 0	...	...	...	...	2,697 0 0
30	Upper Chindwin ...	...	...	1	715 0 0	6	2,384 0 0	...	...	...	...	3,099 0 0
	Total ...	...	...	4	2,828 12 11	26	8,270 12 2	...	...	...	...	11,099 9 1
MAGWE DIVISION.												
31	Thayetmyo ...	...	...	1	900 0 0	8	2,616 0 0	...	...	...	...	3,516 0 0
32	Pakôkku ...	...	...	1	900 0 0	10	2,726 1 3	...	...	1	198 0 0	3,824 1 3
33	Minbu ...	...	...	1	250 0 0	7	2,259 8 0	...	...	...	...	2,509 8 0
34	Magwe ...	...	...	1	710 0 0	8	2,274 11 1	...	...	...	...	2,984 11 1
	Total ...	...	...	4	2,760 0 0	33	9,876 4 4	...	...	1	198 0 0	12,834 4 4
MEIKTILA DIVISION.												
35	Meiktila Vaccine Depot ...	1	1,799 15 10	1	1,670 0 0	†	1,957 15 4	2	1,526 3 1	8	1,218 14 10	7,173 1 1
36	Meiktila ...	...	...	1	2,093 12 9	6	1,836 3 10	...	...	...	...	3,930 0 7
37	Yamèthin ...	...	...	2	978 5 4	7	1,993 11 10	...	...	...	...	2,972 1 2
38	Kyauksè ...	...	...	1	600 0 0	3	1,042 0 0	...	...	...	...	1,642 0 0
39	Myingyan ...	...	...	1	679 5 0	7	2,022 3 8	...	...	...	...	2,701 8 8
	Total ...	1	1,799 15 10	6	6,021 7 1	23	7,852 2 8	2	1,526 3 1	8	1,218 14 10	18,418 11 6
SHAN STATES.												
40	Northern Shan States ...	...	...	2	630 0 0	8	2,035 6 4	...	...	...	...	2,665 6 4
41	Southern Shan States ...	...	...	5	2,477 8 0	11	3,605 5 1	...	...	9	2,353 14 7	8,436 11 8
	Total ...	...	...	7	3,107 8 0	19	5,640 11 5	...	...	9	2,353 14 7	11,102 2 0
42	Chin Hills ...	...	...	...	...	3	1,026 0 0	...	...	...	...	1,026 0 0
	GRAND TOTAL ...	1	1,799 15 10	49	31,303 10 3	272	91,271 11 2	8	1,766 3 1	23	4,479 0 6	1,30,619 8 10

* The average cost in this column is calculated on the total number of successful

† Apprentice

‡ This amount represents stipendiary allowances

DEPARTMENT.

Province of Burma during the year 1912-13 (Paragraph 6).

Travelling allowance.	Contingen- cies.	Total cost.	PAID FROM					Total.	Number of all success- ful vaccinations and re-vaccinations.	Average cost of each successful case.*	No.
			Imperial Funds.	Provincial Funds.	Local Funds.	Municipali- ties.	Native States.				
			17	18	19	20	21				
14	15	16	17	18	19	20	21	22	23	24	25
Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.		Rs. A. P.	
2,275 15 0	144 7 0	5,948 15 5	.....	.....	5,427 15 11	520 15 6	.....	5,948 15 5	15,393	0 6 2	1
277 15 0	.....	948 15 0	.....	948 15 0	.....	.....	.....	948 15 0	989	0 15 4	2
1,974 14 6	.....	4,582 8 1	.....	.....	4,454 8 1	128 0 0	.....	4,582 8 1	11,008	0 6 8	3
821 11 6	.....	2,286 11 6	.....	.....	2,166 11 6	120 0 0	.....	2,286 11 6	5,377	0 6 10	4
5,350 8 0	144 7 0	13,707 2 0	.....	948 15 0	12,049 3 6	763 15 6	.....	13,767 2 0	32,767	0 6 9	
230 1 3	3,841 5 11	12,915 10 3	.....	982 0 0	.....	11,933 10 3	.....	12,915 10 1	21,547	0 8 5	5
1,913 9 3	81 2 0	4,774 8 7	.....	.....	4,774 8 7	.....	.....	4,774 8 7	3,835	1 3 11	6
2,666 1 6	79 1 0	6,481 15 0	.....	.....	6,481 15 0	.....	.....	6,481 15 0	4,042	1 9 8	7
2,931 4 9	.....	7,088 14 7	.....	.....	6,552 2 3	733 12 4	.....	7,088 14 7	9,619	0 11 9	8
1,984 15 0	40 8 0	4,955 11 4	.....	.....	4,955 11 4	.....	.....	4,955 11 4	17,265	0 4 7	9
1,724 1 6	55 12 0	6,407 13 6	.....	.....	5,486 13 6	981 0 0	.....	6,407 13 6	10,344	0 9 11	10
11,450 1 3	4,097 12 11	42,624 9 3	.....	982 0 0	27,991 2 8	13,651 6 7	.....	42,624 9 3	69,652	0 9 9	
1,484 13 0	66 14 0	3,830 14 4	.....	.....	3,830 14 4	.....	.....	3,830 14 4	13,173	0 4 8	11
1,184 3 6	31 12 0	3,805 15 6	.....	.....	3,205 15 6	600 0 0	.....	3,805 15 6	3,296	1 2 6	12
1,644 6 0	56 6 0	5,054 9 2	.....	.....	4,434 9 2	620 0 0	.....	5,054 9 2	14,486	0 5 7	13
2,163 14 6	121 11 0	6,878 8 6	.....	.....	5,482 3 6	1,416 5 0	.....	6,878 8 6	19,938	0 5 6	14
1,731 1 3	57 0 6	4,269 3 11	.....	.....	3,804 10 3	464 9 8	.....	4,269 3 11	7,607	0 9 0	15
8,203 6 3	333 11 0	23,839 3 5	.....	.....	20,783 4 9	3,100 14 8	.....	23,839 3 5	58,480	0 6 6	
2,239 11 0	103 7 0	6,769 13 8	.....	.....	5,530 13 8	1,239 0 0	.....	6,769 13 8	25,233	0 4 3	16
1,390 13 0	118 6 0	3,746 14 6	.....	.....	3,356 11 3	390 3 3	.....	3,746 14 6	5,685	0 10 7	17
1,174 5 0	40 13 6	2,693 6 9	.....	.....	2,453 6 9	240 0 0	.....	2,693 6 9	4,902	0 8 9	18
1,528 15 3	.....	4,453 14 6	.....	.....	3,793 14 6	660 0 0	.....	4,453 14 6	9,053	0 7 10	19
2,760 6 0	.....	5,711 11 6	.....	.....	5,136 15 2	574 12 4	.....	5,711 11 6	14,109	0 6 6	20
245 8 0	.....	605 8 0	.....	.....	605 8 0	.....	.....	605 8 0	1,389	0 7 0	21
9,399 10 3	262 10 6	23,981 4 11	.....	.....	20,877 5 4	3,103 15 7	.....	23,981 4 11	60,421	0 6 4	
1,084 4 0	21 12 6	6,117 11 7	.....	3,812 7 1	.....	2,305 4 6	.....	6,117 11 7	19,247	0 5 1	22
621 2 0	.....	1,990 6 10	.....	1,654 10 6	.....	335 12 5	.....	1,990 6 10	2,919	0 10 11	23
661 1 8	.....	1,759 1 7	.....	1,759 1 7	.....	.....	.....	1,759 1 7	8,856	0 3 2	24
1,367 14 4	.....	4,233 9 5	.....	3,142 13 5	.....	.....	1,090 12 0	4,233 9 5	2,649	1 9 7	25
286 14 9	.....	1,056 1 4	.....	1,056 1 4	.....	.....	.....	1,056 1 4	1,661	0 10 2	26
4,021 4 9	21 12 6	15,156 14 9	.....	11,425 1 10	.....	2,641 0 11	1,090 12 0	15,156 14 9	15,332	0 6 10	
1,774 9 4	15 7 0	4,567 4 0	.....	4,306 12 0	.....	260 8 0	.....	4,567 4 0	14,110	0 5 2	27
1,510 10 6	20 10 0	4,057 9 11	.....	4,057 9 11	.....	.....	.....	4,057 9 11	23,150	0 2 10	28
1,089 18 11	.....	3,736 13 11	.....	3,376 13 11	.....	360 0 0	.....	3,736 13 11	11,730	0 5 1	29
1,216 2 4	3 2 0	4,318 4 4	.....	4,318 4 4	.....	.....	.....	4,318 4 4	6,202	0 11 2	30
5,541 4 1	39 3 0	16,680 0 2	.....	16,059 8 2	.....	620 8 0	.....	16,680 0 2	55,192	0 4 10	
2,288 7 0	63 0 0	5,867 7 0	.....	.....	5,217 9 0	649 14 0	.....	5,867 7 0	12,497	0 7 6	31
2,707 10 6	.....	6,531 11 9	.....	6,280 11 9	.....	801 0 0	.....	6,531 11 9	20,428	0 5 1	32
889 5 0	.....	3,398 13 0	.....	2,653 13 0	.....	745 0 0	.....	3,398 13 0	15,416	0 3 6	33
853 12 11	.....	3,838 8 0	.....	2,859 5 4	569 2 8	410 0 0	.....	3,838 8 0	22,577	0 2 8	34
6,739 3 5	63 0 0	19,636 7 9	.....	11,743 14 1	5,786 11 8	2,105 14 0	.....	19,636 7 9	71,218	0 4 5	
522 2 6	6,310 2 4	14,005 5 11	.....	14,005 5 11	.....	.....	.....	14,005 5 11	.....	.....	35
1,255 0 9	56 8 0	5,241 9 4	.....	4,978 9 4	.....	263 0 0	.....	5,241 9 4	10,195	0 8 3	36
1,388 11 6	.....	4,355 12 8	.....	3,635 12 8	.....	720 0 0	.....	4,355 12 8	11,337	0 6 2	37
783 14 0	53 0 0	2,478 14 0	.....	2,478 14 0	.....	.....	.....	2,478 14 0	6,225	0 6 4	38
1,282 10 6	12 14 10	3,997 2 0	.....	3,457 2 0	240 0 0	300 0 0	.....	3,997 2 0	18,297	0 3 6	39
5,227 7 3	6,432 9 2	30,078 11 11	.....	28,555 11 11	240 0 0	1,283 0 0	.....	30,078 11 11	46,054	0 10 5	
8,594 6 0	.....	6,259 12 4	.....	3,460 8 8	.....	.....	2,799 3 8	6,259 12 4	4,091	1 8 6	40
3,018 15 0	47 4 0	11,502 14 8	.....	11,502 14 8	.....	.....	.....	11,502 14 8	17,437	0 10 7	41
6,613 5 0	47 4 0	17,762 11 0	.....	14,963 7 4	.....	.....	2,799 3 8	17,762 11 0	21,528	0 13 2	
645 11 0	.....	1,671 11 0	.....	1,671 11 0	.....	.....	.....	1,671 11 0	2,379	0 11 3	42
63,186 13 3	11,442 6 1	2,05,198 12 2	.....	86,350 5 4	87,682 11 11	27,275 11 8	8,889 15 8	2,05,198 12 2	453,023	0 7 8	

vaccinations and re-vaccinations performed by the special staff only.

vaccinators.

given to apprentice vaccinators.

B.—DISPENSARY

STATEMENT NO. III—Showing Dispensary Vaccination in the

No.	Districts.	Number of dispensaries in each district to which a vacci- nator is at- tached.	Average number of vaccinators attached to dispensaries during the year.	Total number of persons vaccinated.	Average number of persons vac- cinated by each vaccinator.	PRIMARY
						Total.
1	2	3	4	5	6	7
ARAKAN DIVISION.						
1	Akyab ... ..	.....	.....	8	.....	5
2	Hill Tracts, Northern Arakan ... ..	.....	.....	146	.....	121
3	Kyaukpyu ... ..	.....	.....	.....	.....	.....
4	Sandoway ... ..	.....	.....	.....	.....	.....
	Total ... ..	.....	.....	152	.....	126
PEGU DIVISION.						
5	Rangoon ... ..	.....	.....	40	.....	29
6	Insein ... ..	.....	.....	220	.....	216
7	Hanthawaddy (Syriam) ... ..	.....	.....	322	.....	228
8	Pegu ... ..	.....	.....	1,475	.....	900
9	Tharrawaddy ... ..	.....	.....	.....	.....	.....
10	Prome ... ..	.....	.....	.....	.....	.....
	Total ... ..	.....	.....	2,057	.....	1,373
IRRAWADDY DIVISION.						
11	Ma-ubin ... ..	.....	.....	789	.....	577
12	Pyapôn ... ..	.....	.....	83	.....	55
13	Bassein ... ..	.....	.....	271	.....	.....
14	Henzada ... ..	.....	.....	92	.....	92
15	Myaungmya ... ..	.....	.....	142	.....	108
	Total ... ..	.....	.....	1,377	.....	832
TENASSERIM DIVISION.						
16	Amherst ... ..	.....	.....	2,527	.....	1,349
17	Tavoy ... ..	.....	.....	.....	.....	.....
18	Mergui ... ..	.....	.....	213	.....	*205
19	Toungoo ... ..	.....	.....	10	.....	1
20	Thatôn ... ..	.....	.....	.....	.....	.....
21	Salween ... ..	.....	.....	141	.....	99
	Total ... ..	.....	.....	2,891	.....	1,654
MANDALAY DIVISION.						
22	Mandalay ... ..	.....	.....	424	.....	126
23	Bhamo ... ..	.....	.....	.....	.....	.....
24	Katha ... ..	.....	.....	103	.....	98
25	Ruby Mines ... ..	.....	.....	.....	.....	.....
26	Myitkyina ... ..	.....	.....	1,417	.....	680
	Total ... ..	.....	.....	1,944	.....	902
SAGAING DIVISION.						
27	Shwebo ... ..	.....	.....	25	.....	.....
28	Sagaing ... ..	.....	.....	443	.....	124
29	Lower Chindwin ... ..	.....	.....	.....	.....	.....
30	Upper Chindwin ... ..	.....	.....	219	.....	187
	Total ... ..	.....	.....	687	.....	311
MAOWE DIVISION.						
31	Thayetmyo ... ..	.....	.....	.....	.....	.....
32	Pakòkku ... ..	.....	.....	195	.....	63
33	Minbu ... ..	.....	.....	221	.....	79
34	Magwe ... ..	.....	.....	147	.....	55
	Total ... ..	.....	.....	563	.....	197
MEIKTILA DIVISION.						
35	Meiktila ... ..	.....	.....	252	.....	144
36	Yamethlin ... ..	.....	.....	.....	.....	.....
37	Kyaukse ... ..	.....	.....	.....	.....	.....
38	Myingyan ... ..	.....	.....	318	.....	*73
	Total ... ..	.....	.....	570	.....	217
SHAN STATES.						
39	Northern Shan States ... ..	.....	.....	25	.....	18
40	Southern Shan States ... ..	.....	.....	155	.....	153
	Total ... ..	.....	.....	180	.....	171
41	Chin Hills ... ..	.....	.....	282	.....	185
	GRAND TOTAL ... ..	.....	.....	10,709	.....	5,968

* Secondary opera

VACCINATION.

Province of Burma for the year 1912-13 (Paragraph 7).

VACCINATION.			RE-VACCINATION.				PERCENTAGE OF SUCCESSFUL CASES IN WHICH THE RESULTS WERE KNOWN.		PERCENTAGE OF UNKNOWN CASES TO TOTAL CASES.		No.
Successful.			Unknown.	Total.	Successful.	Unknown.	Primary.	Re-vaccination.	Primary.	Re-vaccination.	
Under one year.	One and under six years.	Total of all ages.									
8	9	10	11	12	13	14	15	16	17	18	19
...	...	...	...	...	...	...	...	...	...	...	1
...	1	5	...	1	1	...	100.00	100.00	...	...	2
...	16	121	...	25	16	...	100.00	64.00	...	...	3
...	...	...	...	...	...	...	...	...	...	...	4
...	17	126	...	26	17	...	100.00	65.33	...	...
...	...	...	...	...	...	...	...	...	...	...	5
...	3	8	...	11	...	2	27.59	...	...	18.13	6
28	133	192	6	4	2	...	91.43	50.00	2.78	...	7
75	116	217	11	91	43	26	100.00	61.76	4.82	27.66	8
179	419	851	38	575	299	80	93.72	60.40	4.22	13.91	9
...	...	...	...	...	...	...	...	...	...	...	10
286	671	1,263	55	634	343	108	96.21	59.55	4.01	15.79	
...	...	...	...	...	...	...	...	...	...	...	11
78	357	567	10	212	101	3	100.00	48.33	1.73	1.42	12
15	23	50	4	28	10	...	98.04	35.71	7.27	...	13
...	...	...	...	271	139	30	...	57.68	...	11.07	14
13	43	81	7	...	...	...	95.29	...	7.61	...	15
11	53	104	2	34	13	5	98.11	41.83	1.85	14.71	16
122	476	802	23	545	263	38	99.13	51.87	2.76	6.97	
...	...	...	...	...	...	...	...	...	...	...	17
207	399	1,334	13	1,178	153	143	99.85	15.27	.96	12.14	18
...	122	183	12	9	5	3	94.82	83.33	5.85	33.33	19
30	...	1	...	9	4	...	100.00	44.44	...	...	20
...	...	...	...	...	...	...	...	...	...	...	21
1	17	90	...	42	21	...	90.91	50.00	...	...
238	538	1,608	25	1,238	188	146	98.71	17.22	1.51	11.79	
...	...	...	...	...	...	...	...	...	...	...	22
48	60	115	5	298	195	56	95.04	80.58	3.97	13.79	23
...	39	91	...	7	6	...	94.79	85.71	...	...	24
...	...	...	...	...	...	...	...	...	...	...	25
82	231	609	30	737	492	31	93.69	69.69	4.41	4.21	26
139	330	815	35	1,042	693	87	91.00	72.57	3.88	8.35	
...	...	...	...	...	...	...	...	...	...	...	27
24	79	113	3	25	3	19	93.39	12.00	...	...	28
...	...	...	...	319	266	...	...	83.67	2.42	5.96	29
...	3	181	2	32	28	...	97.84	87.50	1.07	...	30
24	82	294	5	376	297	19	96.08	83.19	1.61	5.05	
...	...	...	...	...	...	...	...	...	...	...	31
6	41	59	...	132	121	1	93.65	92.37	...	.76	32
13	60	79	...	142	106	...	100.00	74.65	...	...	33
15	35	54	...	92	72	...	98.18	78.26	...	...	34
40	136	192	...	366	299	1	97.46	81.92	...	.27	
...	...	...	...	...	...	...	...	...	...	...	35
17	51	118	20	108	59	9	95.16	59.60	13.89	8.33	36
...	...	...	...	...	...	...	...	...	...	...	37
22	17	53	7	246	137	43	80.30	92.12	9.59	17.48	38
39	68	171	27	354	246	52	90.00	81.46	12.44	14.69	
...	...	...	...	...	...	...	...	...	...	...	39
16	6	16	3	7	5	...	83.39	71.43	...	...	40
...	80	112	...	2	...	...	74.67	...	1.96	...	
16	86	128	3	9	5	...	76.19	55.56	1.75	...	
11	60	114	15	97	33	4	67.06	40.86	8.11	4.12	41
915	2,464	5,518	188	4,737	2,389	455	95.47	55.79	3.15	9.61	

tions included.

COMPARATIVE STATEMENT NO. IV.—Showing the number of persons primarily vaccinated
Burma in each of the under

Establishments.		PERSONS PRIMARILY									
		Total	Number	Total	Number	Total	Number	Total	Number	Total	Number
		number.	success- fully vac- cinated.	number.	success- fully vac- cinated.	number.	success- fully vac- cinated.	number.	success- fully vac- cinated.	number.	success- fully vac- cinated.
		1903-04.		1904-05.		1905-06.		1906-07.		1907-08.	
1		2		3		4		5		6	
Government	...	135,394	109,016	138,435	109,201	162,044	144,074	126,106	111,283	148,497	133,229
Municipal	...	53,775	44,879	59,410	46,168	64,883	52,398	59,352	48,431	48,060	41,811
Local Funds	...	179,917	160,516	166,339	141,626	181,999	160,428	167,418	148,271	138,772	119,609
Native States	...	6,712	5,624	6,983	4,989	8,197	6,983	6,833	5,739	5,203	4,330
Dispensary	...	8,924	6,915	9,516	7,152	9,812	7,272	10,690	7,180	10,443	7,457
ARMY.											
Europeans	...	...	...	25	14	66	38	24	14	59	36
Natives	...	380	222	379	215	304	183	281	143	408	279
Total	...	385,102	327,172	381,090	309,365	427,305	371,376	370,704	321,061	351,442	306,751

STATEMENT NO. V.—Showing particulars of Vaccination verified

No.	Districts.	TOTAL NUMBER OF PERSONS VACCINATED.		TOTAL NUMBER INSPECTED			
				By Deputy Sanitary Com- missioner or Civil Surgeons.		By Native Superintendents or other Inspecting Officers.	
		Primary.	Re-vaccination.	Primary.	Re-vaccination.	Primary.	Re-vaccination.
1	2	3	4	5	6	7	8
1	Akyab	14,022	3,724	209	8	6,514	2,340
2	Hili Tracts, Northern Arakan	932	81	.....	.....	74	51
3	Kyaukpyu	10,728	1,137	2,848	34	5,876	114
4	Sandoway	5,277	740	3,779	543	4,417	631
5	Rangoon	8,132	32,554	184	904	6,636	25,741
6	Insein	3,650	880	866	.....	2,855	598
7	Hanthawaddy (Syriam)	5,120	1,194	2,957	.....	4,202	1,046
8	Pegu	9,480	2,952	2,500	941	7,140	1,982
9	Tharrawaddy	18,014	1,683	655	.....	9,744	575
10	Prome	9,885	2,378	47	706	4,853	824
11	Ma-nubin	13,664	892	2,321	58	10,885	737
12	Pyapón	3,279	798	.....	.....	2,329	620
13	Bassein	15,473	451	782	108	7,613	333
14	Henzada	20,583	3,506	1,948	111	4,296	158
15	Myaungmya	7,814	829	4,390	260	6,839	662
16	Amherst	24,647	7,260	1,353	319	15,076	4,879
17	Tavoy	5,328	1,544	2,429	321	3,877	787
18	Mergui	5,817	117	452	35	3,827	28
19	Toungoo	9,098	1,466	236	86	4,845	1,060
20	Thatón	14,769	3,277	3,810	74	7,147	1,013
21	Salween	1,478	451	130	44	23	5
22	Mandalay	10,486	12,895	750	718	6,000	2,365
23	Bhamo	3,233	390	17	1	84	97
24	Katha	8,887	523	1,138	201	535	45
25	Ruby Mines	2,954	97	1,292	30	2,452	91
26	Myitkyina	1,915	1,315	541	607	326	249
27	Shwebo	11,620	4,750	766	270	6,509	1,833
28	Sagaing	12,055	13,810	1,728	535	5,750	4,529
29	Lower Chindwin	11,252	752	2,155	419	8,631	520
30	Upper Chindwin	6,559	49	1,334	.....	830	.....
31	Thayetmyo	11,539	4,428	4,205	95	9,070	2,575
32	Pakókku	21,409	429	1,486	101	5,098	141
33	Minbu	14,116	4,703	1,573	622	4,286	1,128
34	Magwe	20,183	4,506	4,857	356	9,044	296
35	Meiktila	10,613	943	424	15	5,774	288
36	Yamethin	12,318	24	2,590	24	9,396	.....
37	Kyaukse	5,064	1,637	745	25	3,994	1,255
38	Myingyan	18,477	1,976	8,914	164	11,576	786
39	Northern Shan States	5,435	152	857	145	2,942	83
40	Southern Shan States	23,878	709	681	2	13,204	361
41	Chin Hills	2,836	222	1,371	51	.....	.....
GRAND TOTAL		421,489	122,224	69,820	8,933	224,364	60,826

and the number of those persons who were successfully vaccinated in the Province of mentioned official years.

VACCINATED.

Total number.	Number successfully vaccinated.	Total number.	Number successfully vaccinated.	Total number.	Number successfully vaccinated.	Total number.	Number successfully vaccinated.	Total number.	Number successfully vaccinated.	Establishments.
1908-09.		1909-10.		1910-11.		1911-12.		1912-13.		
7		8		9		10		11		
147,185	134,451	178,234	177,619	142,542	132,535	166,142	158,306	184,794	174,075	Government.
43,072	38,908	45,573	44,057	37,145	32,308	44,023	40,089	35,714	34,275	Municipal.
138,167	122,307	112,135	90,744	154,649	142,461	193,961	180,546	186,353	171,957	Local Funds.
6,991	5,262	10,081	6,581	13,177	10,462	11,357	9,194	8,662	7,516	Native States.
7,562	5,287	5,475	4,304	8,268	7,304	5,786	5,431	5,966	5,518	Dispensary.
										ARMY.
37	35	68	56	102	62	47	40	62	59	Europeans.
455	396	306	269	190	153	388	338	464	393	Natives.
343,469	306,646	351,872	323,630	356,073	325,285	421,704	393,944	422,015	393,793	Total.

by Inspecting Officers during the year 1912-13 (Paragraph 9).

PERCENTAGE OF INSPECTIONS TO TOTAL NUMBER VACCINATED.				PERCENTAGE OF CASES FOUND SUCCESSFUL OF TOTAL NUMBER INSPECTED.				PERCENTAGE OF SUCCESS REPORTED BY VACCINATORS.		No.
By Deputy Sanitary Commissioner or Civil Surgeons.		By Native Superin- tendents or other Inspecting Officers.		By Deputy Sanitary Commissioner or Civil Surgeons.		By Native Superin- tendents or other Inspecting Officers.				
Primary.	Re-vaccina- tion.	Primary.	Re-vaccina- tion.	Primary.	Re-vaccina- tion.	Primary.	Re-vaccina- tion.	Primary.	Re-vaccina- tion.	
9	10	11	12	13	14	15	16	17	18	19
1.49	21	46.46	62.84	96.65	12.50	91.02	68.80	95.85	69.56	1
.....	.....	7.94	62.96	.....	.....	100.00	92.16	98.92	92.50	2
26.55	2.99	54.77	10.03	99.89	82.35	95.63	76.32	96.58	89.96	3
71.61	73.88	83.70	85.27	96.43	37.02	94.52	46.75	97.11	37.52	4
2.26	2.78	81.60	79.07	100.00	55.86	99.91	66.93	98.71	66.85	5
23.73	.....	78.22	67.95	54.97	.....	92.08	34.62	94.04	56.72	6
57.75	.....	82.07	87.60	24.11	.....	86.86	62.33	95.66	64.38	7
26.37	31.88	75.32	67.14	93.44	79.38	83.15	69.88	94.74	73.06	8
3.64	.....	54.09	34.17	98.02	.....	96.03	52.00	97.04	61.10	9
48	29.69	49.09	34.85	95.74	79.18	89.55	41.99	96.37	50.52	10
16.99	6.50	79.66	82.62	96.21	18.97	98.93	36.36	99.01	32.11	11
.....	.....	71.03	77.69	.....	.....	94.50	33.87	96.49	30.17	12
5.05	23.95	49.20	73.84	100.00	100.00	92.47	82.83	96.60	98.04	13
9.46	3.17	20.87	4.51	91.84	49.55	93.44	41.77	96.97	45.62	14
56.18	31.36	87.52	79.86	70.16	33.46	92.47	39.88	97.52	43.06	15
5.49	4.39	61.17	67.20	99.63	56.43	98.20	54.44	97.34	60.72	16
45.53	20.79	72.77	50.97	97.61	54.52	96.39	33.12	98.50	46.89	17
8.50	29.91	68.22	23.93	95.13	48.57	94.95	57.14	95.23	59.60	18
2.59	5.87	53.25	72.31	85.17	46.51	82.87	56.60	96.79	52.33	19
25.90	2.26	48.59	30.91	89.84	60.81	95.51	53.84	91.99	52.19	20
8.80	9.76	1.56	1.11	93.03	54.55	100.00	60.00	87.24	45.48	21
7.15	5.57	57.22	18.34	96.53	78.41	98.10	79.92	98.55	78.76	22
1.53	26	2.60	24.87	100.00	100.00	100.00	100.00	85.61	70.00	23
12.81	38.43	6.02	8.60	93.41	23.88	99.07	71.11	97.88	62.80	24
43.74	30.93	83.01	93.81	92.65	3.33	87.36	35.16	96.06	81.93	25
28.25	46.16	17.02	18.94	88.72	74.79	94.17	62.25	97.43	87.55	26
6.59	5.68	56.02	38.59	89.30	62.59	92.93	62.85	95.86	71.56	27
14.33	3.87	47.70	32.80	87.56	79.63	93.38	87.88	99.26	90.98	28
19.15	55.72	76.71	69.15	97.54	80.43	98.01	76.73	99.61	69.41	29
20.25	.....	12.60	.....	91.15	.....	86.51	.....	98.90	82.35	30
36.44	2.15	73.60	58.15	87.80	100.00	89.27	58.25	92.42	58.52	31
6.94	23.54	23.79	32.87	93.73	6.93	97.96	87.23	98.33	33.81	32
11.14	13.23	30.36	23.98	95.23	42.60	96.10	69.50	96.53	51.67	33
24.06	7.90	44.81	6.57	98.41	88.48	97.56	78.04	97.34	76.19	34
4.00	1.59	54.40	30.54	99.76	.....	97.96	58.33	98.18	66.99	35
21.03	100.00	76.28	.....	97.61	41.67	98.30	.....	97.21	72.73	36
14.71	1.53	78.37	76.66	95.03	72.00	97.15	77.69	93.59	79.21	37
48.24	8.30	62.65	39.78	86.62	70.73	93.77	36.00	96.76	50.56	38
15.77	95.39	54.13	54.61	68.96	54.43	84.23	61.45	92.49	59.23	39
2.85	28	55.30	50.92	85.61	.....	95.71	37.67	95.33	63.89	40
48.34	22.97	.....	.....	94.89	78.43	.....	.....	98.65	39.83	41
16.45	7.31	53.23	49.77	88.24	64.11	94.72	64.78	96.71	63.12	

APPENDIX A.

Statement showing the ratio per 10,000 successfully vaccinated and the mortality from small-pox by quinquennial periods for Lower Burma only.

Official year.				Ratio per 10,000 successfully vaccinated.	Quinquennial mean.	Calendar year.				Ratio per 10,000 of mortality from small-pox.	Quinquennial mean.
1				2	3	4				5	6
1897-98	586.66	551.68	1897	4.32	7.73
1898-99	...	...	...	652.47		1898	...	...	...	10.70
1899-00	...	...	...	678.31		1899	...	...	...	13.21
1900-01	...	...	...	530.41		1900	...	...	...	6.76
1901-02	...	...	...	352.69		1901	...	...	...	4.45
1902-03	328.04	350.34	1902	2.82	6.38
1903-04	...	...	...	353.66		1903	...	...	...	2.30
1904-05	...	...	...	324.89		1904	...	...	...	2.38
1905-06	...	...	...	385.48		1905	...	...	...	10.10
1906-07	...	...	...	359.61		1906	...	...	...	14.19
1907-08	300.06	320.23	1907	2.75	3.66
1908-09	...	...	...	297.50		1908	...	...	...	1.34
1909-10	...	...	...	307.29		1909	...	...	...	1.50
1910-11	...	...	...	290.12		1910	...	...	...	3.13
1911-12	...	...	...	398.87		1911	...	...	...	8.83
1912-13	366.05	...	1912	9.53	

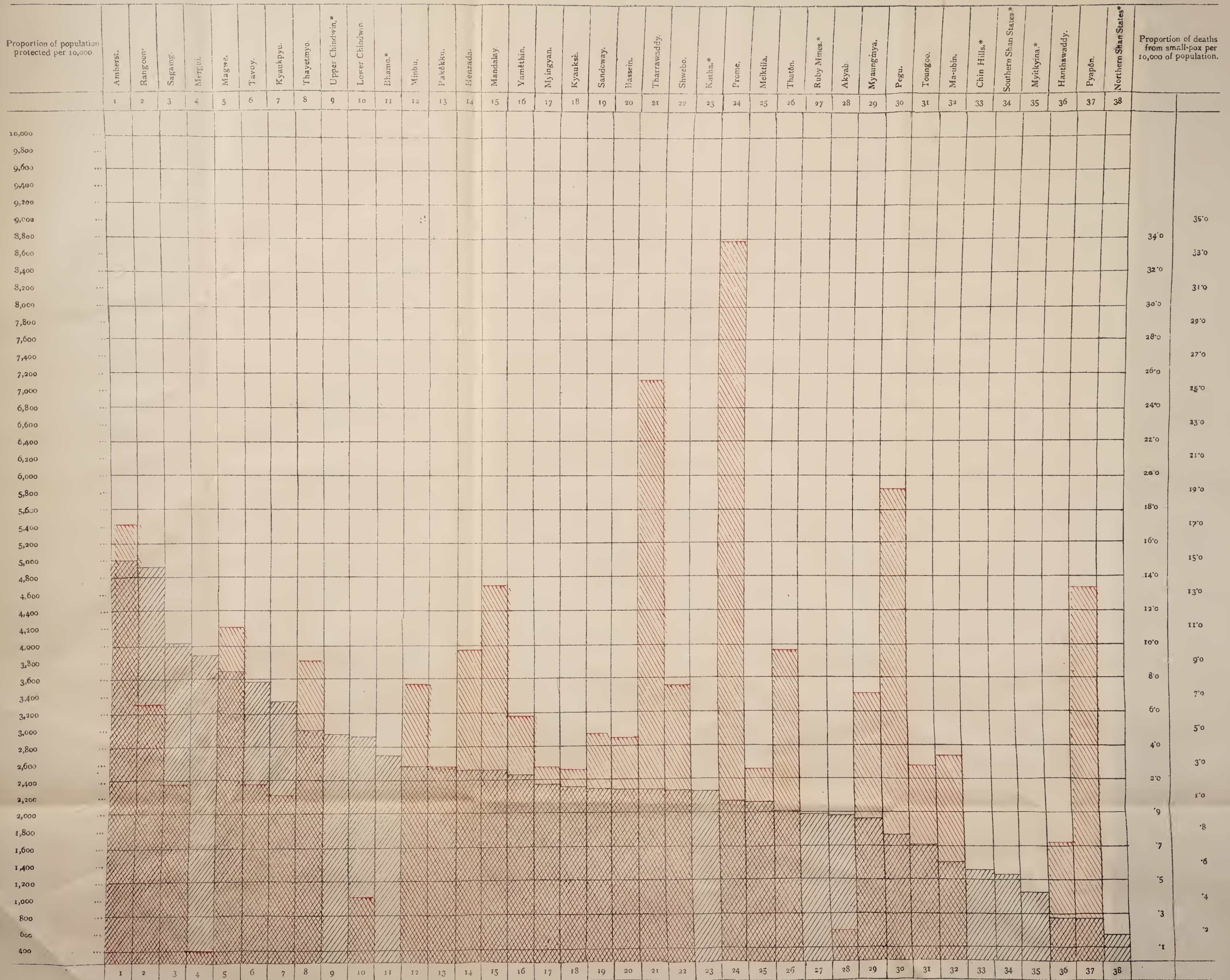
APPENDIX B.

Statement showing the number of vaccinations performed in Municipal towns on children under one year of age (Paragraph 12).

Towns.				Number of births during the year 1912-13.	Number of deaths among children under one year during the year 1912-13.	Number of successful operations on children under one year during the year ending 31st March 1913.	Date of extension of Vaccination Act into towns.
1				2	3	4	5
Akyab	...	...	...	579	262	303	August 1883.
Kyaukpyu	...	...	...	39	4	49	April 1891.
Sandoway	...	...	...	110	21	67	September 1890.
Rangoon	...	...	...	5,206	1,672	4,782	April 1884.
Pegu	...	...	...	490	130	364	March 1893.
Nyaunglebin	...	...	...	127	76	172	29th March 1910.
Prome	...	...	...	749	125	240	June 1890.
Paungdè	...	...	...	349	103	169	August 1890.
Gyobingauk	...	...	...	186	80	132	February 1897.
Letpadan	...	...	...	203	72	182	January 1897.
Thônzè	...	...	...	230	61	143	October 1897.
Ma-ubin	...	...	...	183	39	102	October 1891.
Yandoon	...	...	...	298	77	163	January 1892.
Danubyu	...	...	...	253	74	153	9th July 1909.
Pyapôn	...	...	...	132	13	92	November 1904.
Kyaiklat	...	...	...	247	93	195	15th December 1904.
Bassein	...	...	...	854	392	599	September 1888.
Ngathainggyaung	...	...	...	169	34	109	February 1890.
Myaungmya	...	...	...	102	26	67	June 1894.
Wakèma	...	...	...	167	47	80	27th April 1907.
Henzada	...	...	...	666	259	603	January 1889.
Zaiun	...	...	...	171	27	128	August 1894.
Myanaung	...	...	...	227	50	287	July 1889.
Kyangin	...	...	...	254	68	177	August 1894.
Moulmein	...	...	...	1,205	331	1,237	August 1885.
Thatôn	...	...	...	335	112	305	October 1891.
Kyaikto	...	...	...	195	37	131	March 1897.
Tavoy	...	...	...	870	144	589	December 1889.
Mergui	...	...	...	464	106	396	October 1891.
Toungoo	...	...	...	461	114	372	May 1889.
Shwegyin	...	...	...	125	38	140	January 1890.
Mandalay	...	...	...	5,038	2,120	3,014	August 1891.
Maymyo	...	...	...	195	58	132	October 1912.
Sagaing	...	...	...	352	102	325	April 1894.
Monywa	...	...	...	237	46	207	March 1893.
Thayetmyo	...	...	...	322	109	123	May 1889.
Allanmyo	...	...	...	400	50	148	May 1901.
Yaméthla	...	...	...	245	109	162	February 1892.
Pyinmana	...	...	...	322	130	265	November 1891.
Pyawbwè	...	...	...	109	70	106	May 1912.
Myingyan	...	...	...	541	134	703	September 1891.
Shwebo	...	...	...	282	113	184	June 1894.
Pakókku	...	...	...	552	194	477	April 1892.
Kyaukse	...	...	...	218	64	170	May 1894.
Minbu	...	...	...	217	55	187	March 1896.
Salin	...	...	...	219	62	137	March 1896.
Taungdwlngyi	...	...	...	173	117	47	February 1893.
Meiktila	...	...	...	231	64	91	June 1906.
Bhamo	...	...	...	156	27	150	26th October 1894.
TOTAL				25,508	8,319	19,161	

APPENDIX C.

Diagram showing the proportion of Population protected during the seven official years from 1906-07 to 1912-13 and the death-rate from Small-pox during the calendar year 1912 in districts where registration is in force.



Indicates proportion of population protected per 10,000.
 Indicates rates of deaths from small-pox per 10,000 of population.

Registration of vital statistics is not carried out in these districts.

NOTES AND STATISTICS
ON
VACCINATION IN BURMA

FOR THE YEAR 1912-13



RANGOON
OFFICE OF THE SUPERINTENDENT, GOVERNMENT PRINTING, BURMA

1913